

3. The method of claim 2, wherein said chemical stressor is a catecholamine compound.

4. The method of claim 3, wherein said catecholamine compound is selected from the group consisting of dobutamine, epinephrine, phenylephrine and atropine.

Sub B1
A2
--5. (Amended) The method of claim 2, wherein said chemical stressor is administered in an amount suitable to achieve a heart rate within a desired range.--

6. The method of claim 5, wherein said range is greater than 100 beats per minute.

--7. (Amended) The method of claim 1, wherein said obtaining step is from a precordial lead V4.--

Sub B1
--8. (Amended) The method of claim 1, further comprising generating said electrical signals into an electrocardiogram.--

--9. (Amended) The method of claim 1, further comprising monitoring a heart rate of said individual.--

A3
--10. (Amended) A method for detecting or monitoring abnormal cardiac activities in an individual, the method comprising:

obtaining T wave signals representative of electrical activity of the heart of said individual; and

detecting the presence of non-alternating beat-to-beat fluctuations in T wave morphology in said signals,

wherein the presence of non-alternating beat-to-beat fluctuations in T wave morphology is indicative of abnormal cardiac activities in said individual.--

11. The method of claim 10, further comprising administering a chemical stressor to said individual.

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A4
--12. (Amended) A method of assessing the risk of an individual for sudden death due to cardiovascular pathology, the method comprising:

obtaining T wave signals representative of electrical activity of the heart of said individual;

detecting the presence of non-alternating beat-to-beat fluctuations in T wave morphology in said signals; and

Sub B1
Q4

determining a T wave lability index from said non-alternating beat-to-beat fluctuations in T wave morphology,
wherein a T wave lability index that is significantly different than a reference value is indicative of an increased risk of said individual for sudden death due to a cardiovascular disease.--

13. The method of claim 12, further comprising administering a chemical stressor to said individual.

14. The method of claim 12, wherein said cardiovascular pathology is selected from the group consisting of long QT syndrome, hypertrophic cardiomyopathy, dilated cardiomyopathy, coronary artery disease, myocardial ischemia, idiopathic ventricular fibrillation and Brugada syndrome.

15. The method of claim 12, wherein said individual presents with QT prolongation, QT variability, ectopy, TWA, OHCA, syncope, angina, late potentials, QT dispersion, wide complex tachycardia, unexplained seizures and unexplained near drownings.

21. A method, the method comprising: identifying non-alternating beat-to-beat fluctuations in T wave morphology in signals representative of electrical activity of the heart of an individual; and calculating a T wave lability index as a function of said non-alternating beat-to-beat fluctuations in T wave morphology.

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--22. (Amended) A computer-readable storage medium having instructions stored thereon for causing a programmable processor to:

identify non-alternating beat-to-beat fluctuations in T wave morphology in T wave signals representative of electrical activity of the heart of an individual; and
determine a T wave lability index as a function of said non-alternating beat-to-beat fluctuations in T wave morphology.--

--23. (Amended) The computer-readable storage medium of claim 22, wherein said determining a T wave lability index as a function of said non-alternating beat-to-beat fluctuations in T wave morphology comprises eliminating ectopic beats and sinus beats preceding and following said ectopic beats and calculating the maximal value of root-mean-square differences for isochronic points of a repolarization interval between pairs of consecutive beats.--

24. The computer-readable storage medium of claim 23, wherein said ectopic beats comprise a ventricular premature contraction or an atrial premature contraction.

25. The computer-readable storage medium of claim 23, wherein said determining a T wave lability index as a function of said non-alternating beat-to-beat fluctuations in T wave morphology further comprises filtering said signal prior to said calculating.

26. The computer-readable storage medium of claim 23, wherein said determining a T wave lability index as a function of said non-alternating beat-to-beat fluctuations in T wave morphology further comprises removing baseline fluctuation from said signal prior to said calculating.

27. The computer-readable storage medium of claim 23, wherein said determining a T wave lability index as a function of said non-alternating beat-to-beat fluctuations in T wave morphology further comprises normalizing said maximal value of root-mean-square differences to the absolute magnitude of the signal-averaged QRS complex after said calculating.